

ABSTRACT OF THE DISCLOSURE

Based on a repetitively executed program fragment like a loop in a source program, at least two patterns of object codes are generated which include object codes (a) using a speculative instruction and a speculative check instruction and an object codes (b) not using the speculative instruction and the speculative check instruction. Other object codes are generated that perform control transfer so that after the number of times a speculation failure is detected by the speculation check during the execution of the codes (a) satisfies a predetermined condition, the codes (b) are used for the subsequent repetitive execution.